

**Notice of Allowability**

Application No.

10/734,927

Examiner

Sang Nguyen

Applicant(s)

KHAN ET AL.

Art Unit

2877

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/01/05.
2. ☒ The allowed claim(s) is/are 1-6, 8, and 11-14 which have renumbered as indicate claims 1-11.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 11/29/05.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
Gregory J. Tostey, Jr.  
Supervisory Patent Examiner

### EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. David J. Bailey on 11/29/05.

The application has been amended as follows by the amendment filed on 11/01/05:

**Claims 7 and 9-10 have been canceled.**

**Claim 11, line 1;** delete "9" and replaced by --8 --.

**Claim 12, line 1;** delete "9" and replaced by --8 --.

Please, **amend claim 6** as the following amendment 11/01/05:

(Twice Amended) An arc fault detector for detecting arc faults in three phase aircraft power systems; comprising:

means for generating three load currents in the three phase system, where each load current in the three phase system is indicative of each of the three phases;

means for rectifying the generated load currents;

mean for comparing the three rectified load currents; [[and]]

means for generating a signal in response to the three rectified load currents differing for a time period exceeding a predetermined duration; **and**

**means for detecting that one of the three rectified currents exceeds a predetermined threshold, wherein the means for generating a signal in response to the three rectified load currents differing for a time period exceeding a predetermined duration generates a signal if at least one of the three filtered load current exceeds the predetermined threshold.**

Please, amend claim 8 as the following amendment 11/01/05:

(Twice Amended) A method of detecting arc faults in three phase aircraft power systems, comprising:

detecting when at least one of the three load currents in the three phase power system has a current exceeding a predetermined threshold;

detecting differences between the three load currents; and

generating a signal indicative of differences being detected between the three load currents for a time period exceeding a predetermined duration;

**wherein the detecting differences comprises generating load currents in the three phase system, each load current indicative of one of the three phases and generating a signal indicative of at least two of the three load currents differing by more than a predetermined amount, and detecting differences further comprises continuously monitoring the load currents indicative of the three phases.**

***Allowable Subject Matter***

Claims 1-6, 8, and 11-14 are allowed.

The following is an examiner's statement of reasons for allowance:

As independent claim 1 is allowed over the prior art of record, taken alone or in combination, fails to disclose or render an arc fault detector for detecting arc faults in three phase aircraft power system comprising all the specific elements with the specific combination including of three full wave rectifiers coupled to a plurality of threshold detectors, a three input comparator coupled to the plurality of threshold detectors, and a fault verification circuit connected to an output of the three input comparator, wherein each of the three full wave rectifiers having an input of a load current in the three phase power system and having an output connected to one of a plurality of threshold detectors, the three input comparator having at least three inputs, each of the at least three inputs being connected to an output of one of the plurality of the threshold detectors in combination with the rest of the limitation of claim 1.

As independent claim 6 is allowed over the prior art of record, taken alone or in combination, fails to disclose or render an arc fault detector for detecting arc faults in three phase aircraft power system comprising all the specific elements with the specific combination including of means for detecting that one of the three rectified currents exceeds a predetermined threshold, wherein the means for generating a signal in response to the three rectified load currents differing for a time period exceeding a predetermined duration generates a signal if at least one of the three filtered load current exceeds the predetermined threshold in combination with the rest of the limitation of claim 6.

As independent claim 8 is allowed over the prior art of record, taken alone or in combination, fails discloses or render a method of detecting arc faults in three phase aircraft power system comprising all the specific elements with the specific combination including of wherein the detecting differences comprises generating load currents in the three phase system, each load current indicative of one of the three phases and generating a signal indicative of at least two of the three load currents differing by more than a predetermined amount, and detecting differences further comprises continuously monitoring the load currents indicative of the three phases in combination with the rest of the limitation of claim 8.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang Nguyen whose telephone number is (571) 272-2425. The examiner can normally be reached on 9:30 am to 7:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

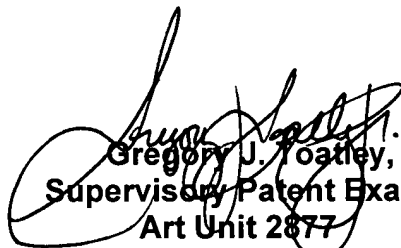
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



November 29, 2005

Sang Nguyen/SN



Gregory J. Foatley, Jr.  
Supervisory Patent Examiner  
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